

Called Directory Number Delivery via 900NXX (1059)

This capability will provide the ESP with the directory number that terminated the call via a circuit switched trunk access arrangement. The method used is 900NXX dialing and Feature Group D (FG D) signaling protocol. The called directory number information (900NXXXXXX) is included within the FG D signaling protocol. The assignment of a 900NXX number to each ESP provides the ESP the capability to assign up to 9999 line numbers. With this capability, the FG D signaling protocol would deliver the specific dialed line number (900NXXXXXX) to the ESP.

Generic Name of ONA Service	Product Name	BSE or CNS
Called Directory Number Delivery via 900NXX	AM - Called Directory Number Delivery	BSE
	BA - 900 Access Service	BSE
	NX - 900 Access Service	BSE
	SWB - Circuit Switched - Trunk Side Alternative D Basic Serving Arrangement (BSA-D)	BSA *

FEATURE OPERATION:

This feature is activated/deactivated by an Access Service Order.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS17

2. The service is LATA wide and can be accessed either at the tandem or at the end office. Both access arrangements must be properly equipped with Feature Group D protocol trunks to the 900NXX serving carrier.
3. Calls that originate from non-FG D protocol offices will be handed off to the ESP at the access tandem using the FG D protocol.
4. References:
 - Feature Group D protocol is described in LSSGR FR-64 (formerly FR-NWT-000064), GR-690, Exchange Access Interconnection FSD 20-24-0000, Issue 2, September 1995, Revision 1 - October 1996 (replaces TR-NWT-000690).
 - GR-334-CORE Switched Access Service: Transmission Parameter Limits and Interface Combinations, Issue 1, June 1994 (replaces TR-NWT-000334).

This service is associated with the Circuit Switched Trunk basic serving arrangement.

* For Southwestern Bell Telephone Company, this is an inherent feature of Circuit Switched - Trunk Side Alternative D Basic Serving Arrangement (BSA-D) service.

Calling Billing Number Delivery - FG B Protocol (1060)

This arrangement allows the ESP to receive the billing number (ANI - 7 digit) of the party who originated the call to the ESP with the signaling information that is transmitted to the ESP during call setup. This signaling information will be transmitted using a Feature Group B protocol over a direct circuit switched trunk side connection.

Generic Name of ONA Service	Product Name	BSE or CNS
Calling Billing Number Delivery - FG B Protocol	BA - Automatic Number Identification (ANI) - Trunk Side BSA-950 Option	BSE
	BS - Called/Calling Number Information - ANI Via FG B/TSBSA Technical Option 1 *	BSE
	NX - Automatic Number Identification	BSE
	USW - Automatic Number Identification	BSE

FEATURE OPERATION:

1. An ESP's client will dial (1)+950+0XXX or (1)+950+1XXX to reach the ESP. The XXX is the ESP's Carrier Identification Code (CIC).
2. ESP equipment may need to prompt the end user (e.g., via second dial tone) for additional information in order for the ESP to process the call.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS19

2. ESPs that purchase trunk side access service utilizing FG B protocol will be assigned a Carrier Identification Code (CIC) and must establish a Point of Presence (POP) in each LATA served. The CIC code will be the same for both FG B protocol and FG D protocol. However, in the future, CIC codes for trunk side access services utilizing FG B protocol and FG D protocol may be assigned independently.
3. ESPs must order direct trunks between each FG B protocol end office switch they wish to serve and their POP. The ANI optional feature must be ordered on all trunks. (Calling Billing Number Delivery - FG B Protocol cannot be provided using tandem arrangements, as the tandems utilizing FG B protocol do not have the ability to pass ANI.)
4. The ANI data forwarded to the ESP consists of the seven (7) digit billing number of the station originating the call and one ANI information digit.

* BellSouth will only offer this service on an interLATA basis.

5. Destination code information, such as the called number, may be transmitted to the ESP from rotary stations provided the ESP orders the Rotary Dial Station Signaling option. This feature is available only from suitably equipped end offices.
6. Calls may be forwarded to ESPs using call forwarding services.
7. This service may be available in other switches equipped for Equal Access service.
8. References:
 - TR-TSY-000698 Feature Group B FSD 20-24-0300, Issue 1, June 1989, Rev. 1, July 1990.
 - TR-NPL-000175 Compatibility Information for Feature Group B Switched Access Service, Issue 1, July 1985.
 - GR-334-CORE Switched Access Service: Transmission Parameter Limits and Interface Combinations, Issue 1, June 1994.

This service, if offered as a BSE, is associated with the Circuit Switched Trunk basic serving arrangement.

Calling Billing Number Delivery - FG D Protocol (1061)

This arrangement allows the ESP to receive the billing number (ANI - 10 digit) of the party who originated the call to the ESP with the signaling information that is transmitted to the ESP during call setup. This signaling information will be transmitted using a Feature Group D protocol over a circuit switched trunk side connection.

Generic Name of ONA Service	Product Name	BSE or CNS
Calling Billing Number Delivery - FG D Protocol	AM - Calling Billing Number Delivery (i.e., ANI)	BSE
	BA - Automatic Number Identification (ANI) - Trunk Side BSA - 10XXX Option	BSE
	BS - ANI	BSE
	NX - Automatic Number Identification	BSE
	PB - Automatic Number Identification	BSE
	SWB - Automatic Number Identification	BSE
	USW - Automatic Number Identification	BSE

FEATURE OPERATION:

1. An ESP's client that is presubscribed to that ESP will dial (1) + 7/10 digits to reach the ESP. If the ESP's client chooses another carrier as his/her presubscribed carrier, the ESP's client would dial 10XXX (and/or 101XXXX) + (1) + 7/10 digits or 10XXX (and/or 101XXXX)+# to reach the ESP. The XXX (and/or XXXX) would be the ESP's Carrier Identification Code (CIC).

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. ESPs that purchase trunk side access service utilizing FG D protocol will be assigned a Carrier Identification Code (CIC) and must establish a Point of Presence (POP) in each LATA served.
2. ESPs may order (1) direct trunks between each equal access switch and the ESP's POP, or (2) trunks between FG D protocol equal access tandems and the ESP's POP, or (3) a combination of direct and tandem trunks. The trunks must be ordered with the ANI feature where ANI is an optional feature, in order for the ESP to receive the calling billing number.
3. Calls may be forwarded to the ESP using call forwarding services.
4. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS19

5. The service may be available in other switches equipped for Equal Access service.

6. This service may be available with CCS7 protocol.

7. References:

- LSSGR FR-64 (formerly FR-NWT-000064), GR-690, Exchange Access Interconnection FSD 20-24-0000, Issue 2, September 1995, Rev 1 - October 1996 (replaces TR-TSY-000690).
- TR-NPL-000258 Compatibility Information for Feature Group D Switched Access Service, Issue 1, October 1985.
- GR-334-CORE Switched Access Service: Transmission Parameter Limits and Interface Combinations, Issue 1, June 1994 (replaces TR-NWT-000334, Issue 3).

8. References for CCS7:

- GR-905 Common Channel Signaling Network Interface Specification (CCSNIS) Supporting Network Interconnection, Message Transfer Part (MTP), and ISDN User Part (ISDNUP), Issue 2, December 1996, Revision 1 - December 1997 (replaces TR-TSV-000905, Issue 2).
- GR-394 Switching System Generic Requirements for Interexchange Carrier Interconnection Using the Integrated Services Digital Network User Part (ISDNUP), Issue 2, December 1997 (replaces TR-NWT-000394, Issue 4).

This service, if offered as a BSE, is associated with the Circuit Switched Trunk basic serving arrangement.

Calling Billing Number Delivery - via ISDN Q.931 Protocol *

*** A waiver for Switched Access Feature Group K service was denied by the FCC, in CC Docket 89-79, Order dated 7/11/91. As a result, Southwestern Bell Telephone Company was unable to file a tariff on Calling Billing Number Delivery via ISDN Q.931.**

Calling Directory Number Delivery - via ICLID (1064)

Calling Directory Number Delivery via Calling Number Delivery (CND) (CLASSSM) allows the subscriber to receive the telephone number of the caller prior to answering the call.

When Calling Number Delivery (CND) is assigned to the subscriber's line, the directory number of the calling party, the time of the call and the date are sent to, and displayed on, the called party's Customer Premises Equipment (CPE) during the first long silent interval of the ringing cycle (between the first and second rings). If the calling party is outside the area in which the service works, the called party's CPE will receive an "O" which in most cases is displayed as "Out of Area" (actual display is the function of the CPE used).

Generic Name of ONA Service	Product Name	BSE or CNS
Calling Directory Number Delivery- via ICLID	AM - Caller ID	CNS
	AM - Caller ID With Call Waiting	CNS
	BA - Caller ID	BSE
	BS - Caller ID	CNS
	NX - Caller ID	CNS
	PB - Caller ID	BSE
	SWB - Caller ID	CNS
	USW - Caller Identification - Number	BSE

FEATURE OPERATION:

The customer must contact the telephone company to have the Calling Directory Number Delivery service activated. Once the translation changes have been made to the customer's line and the customer has installed the appropriate CPE, the calling number, date and time of the call is automatically transmitted to the customer's CPE. If the service is offered on a usage-sensitive basis, the customer has the option of turning the display device on and off by using the service access codes *65 or 1165 for activation and *85 or 1185 for deactivation. If the service is offered on a flat-rate basis, the display device cannot be turned on and off using the access codes.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10*	5E5	BCS28

NOTE: * Available on intraoffice basis with generic 1AE9.

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2. The serving central office switch must be equipped with the appropriate CLASSSM Calling Number Delivery software and hardware. In order for this service to work on an interoffice basis, both the originating and terminating switches must be equipped with the CLASSSM and the Common Channel Signaling (CCS) SS7 software and hardware and the interoffice trunks must be converted to SS7.
3. This service is a "line" service and therefore cannot be assigned to subscribers with trunk terminations (i.e., PBX with DID). This service is also unavailable to multiparty lines, coin terminating and 1A ESS remote switching system (RSS) lines. This service requires on-hook transmission, therefore there may be instances (MFT, Channel Banks) where this service may not work. An exception is Ameritech's offering of "Caller ID With Call Waiting."
4. The subscriber must have a station set or a display device adjunct to the station set capable of receiving and displaying the calling directory number. The subscriber is responsible for the purchase and installation of this display device.
5. If the subscriber answers the telephone during the first ringing interval, the calling directory number will not be displayed at the CPE.
6. References:
 - TR-NWT-000031, CLASSSM Feature: Calling Number Delivery, FSD 01-02-1051, Issue 4, December 1992.
 - GR-30, Voiceband Data Transmission Interface, Issue 1, December 1994 (replaces TR-NWT-000030).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Carrier Selection On Reverse Charge (1065)

800 Service is a telecommunications service in which any charges for the call are paid by the called party rather than the calling party. Dial access for the service is in the form of 1-800-NXX-XXXX. [Note: 888 is now equivalent to 800.]

The 800 Service subscriber purchases service from particular areas and incurs all the costs associated with processing calls for the calling parties. The unique reverse billing feature provides the calling party with "free" calls, while allowing the 800 Service customer, the called party, to encourage calls from parties of choice.

Generic Name of ONA Service	Product Name	BSE or CNS
Carrier Selection On Reverse Charge	AM - 800 Dialing Alternative	BSA *
	BA - 800 Access Service	BSE
	BS - 800 Service	BSA
	NX - 800	BSE
	PB - 800 Access Service	BSA **
	USW - 800 Service	BSA *

FEATURE OPERATION:

BOC 800 Service provides for the assignment of a single ten digit 800 Number (i.e., 800+XXX+XXXX) to the customer which can be used on a state wide basis for intraLATA calling. The service can be selected for an area consisting of less than an entire state by specifying a desired area of service.

The basic BOC 800 Service to an individual customer consists of the following capabilities:

1. The assignment of a single 800 number, which allows but does not require the subscriber to use one 800 number nationwide.
2. A termination that connects a location specified by the customer to the BOC's switched facilities.
3. Access to a single exchange or interexchange carrier for intraLATA transport.
4. Carrier selection.
5. Customer defined area of service.
6. The offering of national directory assistance listings to be passed to the national directory assistance provider.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. References:

- SR-2275, Bellcore Notes on the Networks, Issue 3, December 1997 (replaces SR-TSV-002275, Issue 2)

* For Ameritech and U S WEST, this is a Circuit Switched Trunk Type BSA alternative.

** For Pacific Bell, this is a Circuit Switched Line Type BSA alternative.

- GR-508, LSSGR: Automatic Message Accounting (AMA) Section 8, (A module of LSSGR FR-64) Issue 2, December 1997 (replaces TR-TSY-000508, Issue 3).
- TR-NWT-000533 Service Switching Points (FSD 31-01-0000), Issue 3, January 1994.
- U S WEST document 77318 Compatibility Information for 800 Service Switched Access, May 1986.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Coin Phone With Post Dialing Tone Capability (1062)

This capability provides for the coin phone key pad to remain enabled throughout a call. An ESP's client can then transmit information to the ESP utilizing DTMF signaling. Some non-LEC coin stations are not connected to Central Office lines with a coin class of service and so are not treated as "coin" telephones from a network standpoint.

Generic Name of ONA Service	Product Name	BSE or CNS
Coin Phone With Post Dialing Tone Capability	BA - Public Telephone Service	CNS *
	BS - Post Dial DTMF Signaling From Coin Phone	BSA *
	NX - Post Dialing DTMF Signaling From Pay Station	CNS *
	SWB - Post Dialing Capability (Public Telephone)	CNS
	USW-- Semipublic and Shared Coin Lines	BSA *

* This network capability is an inherent function of LEC coin telephone service.

FEATURE OPERATION:

(This discussion applies to Dial Tone First Coin Stations.)

1. A coin station user goes off-hook and dials a local 7 digit number. At some time prior to the dialing of the last digit, the user deposits enough coins to cover the Initial Period charge. At this time, the coin phone key pad is powered by the loop current flow.
2. After receipt of the last digit, (assuming the call is not "911", "0", 1+, etc.), the loop current flow is interrupted so that the Central Office can test for the Initial Period deposit. The key pad is disabled at this time.
3. After it is determined that the initial deposit is present, and after the call is set up, loop current is reapplied to the circuit, enabling the keypad again. The keypad remains enabled throughout the remainder of the call.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2	BCS19

2. References:

- TR-TSY-000181 Dual-Tone Multifrequency Receiver Generic Requirements for End-To-End Signaling Over Tandem-Switched Voice Links, Issue 1, March 1987.
- TR-TSY-000450 Generic Requirements for Public Telephone Dial Dual Tone Multifrequency (DTMF), Issue 1, June 1989.
- GR-528 Public Telecommunications Service FSD 10-01-0000, Issue 1, December 1994 (replaces TR-TSY-000528, Issue 2).

Customer Originated Trace (1066)

Customer Originated Trace (CLASSSM) capability allows a customer to have the last incoming number automatically traced. The results of the trace are not provided directly to the customer; they are output to an authorized agency. This capability requires that both the originating and terminating central offices be equipped with Common Channel Signaling (CCS) SS7 and be interconnected by SS7.

Generic Name of ONA Service	Product Name	BSE or CNS
Customer Originated Trace	AM - Call Trace	CNS
	BA - Call Trace	CNS
	BS - Call Tracing	CNS
	NX - Call Trace	CNS
	PB - Call Trace	CNS
	SWB - Call Trace SM	CNS
	USW - Call Trace	CNS

FEATURE OPERATION:

Depending on the Local Exchange Company's implementation of this service, the customer either contacts the telephone company to request the service, which requires a service order, or the service is automatically available on an office basis to everyone. In either scenario, once the appropriate translations are done to the line(s), the customer can initiate a trace of the last incoming call (after hanging up) by going off-hook and dialing *57 (1157 for rotary dial). The customer then receives one of the following type announcements depending on how the service is implemented:

- One-Level Announcement

If the calling number is valid, an announcement is given informing the customer that the trace was successful and instructs the customer what to do next. If the calling number is invalid, an announcement is given indicating why the trace cannot be done and dial tone is returned to the customer.

- Two-Level Announcements

The customer receives an announcement explaining that they have accessed the Customer Originated Trace service. Then, if the calling number is valid, the customer is instructed to dial "1" if they wish to activate the service and trace the call or to hang up to abort. If the customer dials "1", an announcement is given informing the customer that the trace was successful and instructs the customer what to do next. If the calling number is invalid, an announcement is given indicating why the trace cannot be performed and dial tone is returned to the customer.

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The results of the trace are not given to the customer. They are automatically transmitted to an agency (determined by the telephone company), where the information is stored and available for further action.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10*	5E5	BCS28

Note: * Available on an intraoffice basis with 1AE9.

2. The serving central office switch must be equipped with the appropriate CLASSSM Customer Originated Trace software and hardware. In order for this service to work on an interoffice basis, both the originating and terminating switches must be equipped with the CLASSSM and the Common Channel Signaling (CCS) SS7 software and hardware and the interoffice trunks must be converted to SS7. This service is only offered on an intraLATA basis at this time.
3. This is a "line" service and therefore cannot be assigned to subscribers with trunk terminations (i.e., PBX with DID). This service is also unavailable to multiparty lines and 1A ESS remote switching system (RSS) lines. In addition, this service is unavailable to customers that have denied originating and denied terminating treatment.
4. The information delivered to the authorized agency includes: the called telephone number, the calling telephone number, the date, and the time of the call.
5. If the customer has Call Waiting and if the Call Waiting is activated during a call, the call waited number is the number that will be traced if Customer Originated Trace is activated.
6. References:
 - LSSGR FR-64 (formerly FR-NWT-000064), TR-TSY-000216 CLASSSM Feature: Customer Originated Trace, Issue 2, May 1988, Bulletin 1, February 1994.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Cut Off On Disconnect (1095)

This capability provides a disconnect signal to the terminating party on a call, to indicate when the originating party has hung up. The benefit of this feature is that CPE equipment, such as answering machines, can detect the disconnect, and will not record messages consisting of "Dial Tone."

Generic Name of ONA Service	Product Name	BSE or CNS
Cut Off On Disconnect	BA - Business Individual Line	BSA *
	BS - Voice Grade Line - Circuit Switched	BSA *
	NX - Circuit Switched Line	BSA *

FEATURE OPERATION:

1. A call is placed to a line that has the "Cutoff On Disconnect" feature. After a predetermined number of rings, during which the called party does not answer, the called party's answering machine is connected to the call to record a message.
2. The calling party, wishing to speak with a person, decides not to leave a message, and hangs up. The terminating office sees an off-hook condition generated by the answering machine, and begins calling party disconnect timing.
3. After expiration of the timing interval, if the called party (answering machine) is still off-hook, and the line **does not** have the "Cutoff On Disconnect" feature, Dial Tone is applied to the line, which the answering machine records until the Central Office times out and begins Permanent Signal Treatment. However, if the line is equipped with the "Cutoff On Disconnect" feature, the Central Office supplies a 500 ms open to the line before applying Dial Tone. The answering machine can then recognize that the calling party has disconnected, and can drop the call before it starts to record Dial Tone.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	DMS-100
Earliest Generic Release	BCS25

2. The DMS-100 requires NTX901AA, F2653 - COD Option On An Office Basis and BCS25. The feature is assignable on both a line option and an office-wide basis.

References: not available.

* This service is inherent in the Circuit Switched Line basic serving arrangement in certain Central Offices.

DID Trunk Queuing (1067)

DID Trunk Queuing will permit calls directed to an ESP's All Trunks Busy DID Trunk Group to be held for delivery when a DID trunk becomes idle. This would allow the ESP to answer calls from clients that would otherwise have received a busy signal.

Generic Name of ONA Service	Product Name	BSE or CNS
DID Trunk Queuing	BA - DID Trunk Queuing	BSE
	PB - DID Trunk Queuing	BSE
	USW - DID Trunk Queuing and Basic Announcement	BSE

FEATURE OPERATION:

DID Trunk Queuing allows ESPs to receive and hold calls directed to their busy DID trunk group. This service will place these calls in a queue, to be held until a trunk between the central office and the ESP is available. When a trunk becomes available, a call will be released from the queue and connected to the idle trunk. Calls held in the queue will hear ringing unless the ESP has ordered that a delay announcement be played to the caller.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS
Earliest Generic Release	1AE8A

2. Calls placed in the queue are delivered on a "first in-first out" basis.
3. The number of calls to be held in queue at any one time is established by the ESP at the time the service is ordered.
4. A maximum of four delay announcements is possible.
5. Each delay announcement may vary in length from three to 24 seconds.
6. References:

- LSSGR FR-64 (formerly FR-NWT-000064) FSD 01-02-0802, Multiline Hunt Service, Issue 1, May 1990, Module TR-TSY-000569.

This service, if offered as a BSE, may be associated with the Circuit Switched Line or Trunk basic serving arrangement, as stated in the individual ONA plans.

Distinctive Ringing (1068)

Distinctive Ringing (CLASSSM) alerts a customer via a special ringing pattern when receiving a call from a pre-specified list of directory numbers. If the customer is also a subscriber to Call Waiting service, and is off-hook on a call, a special Call Waiting tone will be sent to the customer if the calling party's number is on the pre-specified list.

Generic Name of ONA Service	Product Name	BSE or CNS
Distinctive Ringing	BA - Priority Call	CNS
	BS - Call Selector	CNS
	PB - Priority Ringing	CNS
	SWB - Priority Call SM	CNS
	USW - Priority Call	CNS

FEATURE OPERATION:

The customer must contact the telephone company to initiate Distinctive Ringing service. A service order is required. The customer initiates control of the Distinctive Ringing screening list contents as well as activation and deactivation of the service by dialing access codes as described below. Once the appropriate translations have been made to the customer's line the customer may activate, deactivate and/or use the service as follows:

1. 1A ESS: To activate the Distinctive Ringing service, the customer must go off-hook and dial *61 (1161 for rotary dial). The customer will then receive an announcement providing the following information:

- The name of the service.
- The service is now active.
- The number of entries on the list.
- The instructions for creating/adding numbers to the list; removing subscriber's entries from the list; reviewing the list.

To deactivate the service, the customer must go off-hook and dial *81 (1181 for rotary dial). The customer will then receive an announcement providing the following information:

- The name of the service.
- The service is now off.

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— The number of entries on the list.

— The instructions for removing any subscriber list entry; removing all subscriber entered numbers.

2. 5ESS and DMS-100: To activate or deactivate the Distinctive Ringing service, the customer must go off-hook and dial either *61 or *81 (1161 or 1181 for rotary dial). Once either access code has been successfully entered, the customer should receive an announcement providing the following information:

— The name of the service.

— The status of the service (active or inactive).

— The number of entries on the list.

— The instructions for creating/adding, removing, reviewing the list, changing of service status (active to inactive, inactive to active).

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10*	5E6	BCS31**

NOTE: * Available on an intraoffice basis with 1AE9.

** References to switching system generics that have not yet been released by the vendors are based on our current information about which features are planned for inclusion in those generic releases. If the vendors change the availability of any features for future generic releases that are referenced in this document, the availability of some services may be affected.

2. The maximum directory number list size is pre-determined by the telephone company on a company basis and can range from 2 to 31.
3. The serving central office switch must be equipped with the appropriate CLASSSM Distinctive Ringing/Call Waiting software and hardware. In order for this service to work on an interoffice basis, both the originating and terminating switches must be equipped with the CLASS and Common Channel Signaling (CCS) SS7 software and hardware and the interoffice trunks must be converted to SS7.
4. This service is a "line" service and therefore cannot be assigned to subscribers with trunk terminations (i.e., PBX with DID). This service is also unavailable to customers with the following types of lines: multiparty, hotel/ motel, coin and coinless public, 1A ESS remote switching system lines (RSS) and Centrex attendant with console. In addition, because of the special ringing, this service may not work where channel banks (FX service), MFTs or bridge lifters are used (depending on circuit design).
5. The ringing tone and the call waiting tone that a customer hears have a short-long-short pattern. Some telephone companies use this pattern for more than one service.
6. There are certain digital loop carrier plug-ins that will not transmit the required distinctive ringing.

7. References:

- TR-TSY-000219 CLASSSM Feature: Distinctive Ringing/Call Waiting, LSSGR FR-64 (formerly FR-NWT-000064), Issue 2, November 1988, Revision 1, May 1992.
- TR-NWT-000220, CLASSSM Feature: Screening List Editing, Issue 3, December 1993.

Distinctive Ringing - Terminating Screening (1069)

Distinctive Ringing - Terminating Screening (non-CLASSSM) provides individual ringing signals for customers who have multiple directory numbers (DNs) assigned to a single line appearance of a circuit switch. One DN is designated as the "master" DN and receives regular ringing. Additional DNs associated with the single line appearance receive distinctive ringing signals.

Generic Name of ONA Service	Product Name	BSE or CNS
Distinctive Ringing - Terminating Screening	AM - Call Identification/Multi-Ring Svc.	CNS
	BA - Identa-Ring [®]	CNS
	BS - RingMaster [®]	CNS
	NX - RINGMATE [®]	CNS
	SWB - Personalized Ring SM	CNS
	USW - Custom Ringing	CNS

FEATURE OPERATION:

1. A customer may request from the telephone company that up to four Directory Numbers (a primary and three secondary) be assigned to their line. A service order is required.
2. Once provisioned, a unique ringing pattern is applied to the customer's line for each of the assigned directory numbers dialed by the calling party. The calling party always hears a normal audible ringing pattern.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE9	5E4	BCS25

2. This service is only available on single party lines with superimposed ringing.

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[®] Identa-Ring is a registered service mark of Bell Atlantic.

[®] RingMaster is a registered trademark of BellSouth.

[®] RINGMATE is a registered service mark of NYNEX.

SM Personalized Ring is a service mark of Southwestern Bell Telephone Company.

3. The primary number (PDN) receives normal ringing. Ringing patterns for the secondary numbers (SDNs) is as follows:

SDN1 - 2 long rings

SDN2 - 2 short rings, 1 long ring

SDN3 - 1 short ring, 1 long ring, 1 short ring

4. Customers with Call Waiting will receive a unique Call Waiting tone for each directory number dialed.
5. Customers with Call Forwarding - Variable may have the option at subscription of being able to forward only the primary number or forwarding all directory numbers upon service activation.
6. If other Call Forwarding features are assigned to the primary number, they are also provided for the secondary numbers.
7. Originating Custom Calling features such as Three Way Calling or Speed Calling can be assigned to the primary number only.
8. References:
 - LSSGR FR-64 FSD 01-01-1000
 - BellSouth Reference TR-73534 Description of the Network Interface to RingMaster® Service, Issue B, February 1991.

Faster Signaling On DID (1094)

Faster signaling on DID provides the customer with improved call completion efficiencies for calls that terminate to DID trunks. Two methods are currently available to provide the ESP with faster signaling, Multi-Frequency (MF) and Dual Tone Multi-Frequency (DTMF) address signaling. Each of these methods provides improvements relative to Dial Pulse (DP) signaling in terms of the holding time required for digit outpulsing to the ESP's PBX during call routing. This equates to reduced holding times for DID trunks and is perceived by the ESP to reduce the number of DID trunks required to handle its traffic.

Generic Name of ONA Service	Product Name	BSE or CNS
Faster Signaling On DID	BA - Faster Signaling On DID	[*] BSE
	BS - Faster Signaling On DID	BSE or CNS
	NX - Faster Signaling On DID	BSE
	USW - Called Directory Number Delivery (DID)	^{**} BSA

FEATURE OPERATION:

A call is placed to a number terminating on a DID trunk. The Central Office determines through translations that this DID trunk group requires either MF or DTMF signaling. The appropriate equipment (and software) is utilized to outpulse the digits to the DID system in the proper format.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS19

2. The digital switches (5ESS and DMS-100) provide this feature as an inherent part of the switch, utilizing the appropriate time slots to furnish the MF or DTMF signal to the DID PBX. The 1A ESS requires hardware (MF or DTMF transmitters) and software (9SHLTO if DTMF) to provide this feature.

3. References:

- SR-2275 Bellcore Notes On The Networks, Issue 3, December 1997 (replaces SR-TSV-002275, Issue 2).

This service, if offered as a BSE, is associated with the Circuit Switched Line or Trunk basic serving arrangement, as stated in the individual ONA plans.

^{*} Standard Option

^{**} For U S WEST this capability is a DID service alternative.

Flexible ANI Information Digits (1058)

The flexible ANI information digit assignment feature permits the association of supplementary information digits with specific calling party classes of service (e.g., coin phone, hotel/motel, and prison service). The purpose of flexible ANI information digits is to provide information about the calling party's directory number which may be useful to ESPs for billing and/or screening of calls. Flexible ANI information digit assignments are made by Bellcore as part of its North American Number Plan administration responsibilities.

Generic Name of ONA Service	Product Name	BSE or CNS
Flexible ANI Information Digits	AM - Flexible ANI	BSE
	BA - Flexible ANI	BSE
	BS - ANI	BSE
	NX - Flexible ANI	BSE
	SWB - Flex ANI	BSE
	USW - Flexible ANI	BSE

FEATURE OPERATION:

Flexible ANI applies to interoffice calls that send two digit ANI information via Equal Access Multi-Frequency Signaling, Common Channel Signaling or Modified Operator Services Signaling. When Flexible ANI digits apply to a class of service, they will be outpulsed instead of hard-coded class of service ANI pairs. Being able to associate flexible ANI pairs to originating line class of service translations provides the capability for the terminating switch to identify more classes of lines. In addition, associating flexible ANI pairs with the routing translations for ESP services provides an efficient method for ESPs to identify when customers are attempting to use those services. The ANI pairs are transmitted as part of the ANI signaling sequence and are used by the receiving switch to identify the type of originating line or the type of call being made.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE11.03	5E6	BCS27

2. The Circuit Switched Trunk type BSA with FG D protocol in-band signaling interface will support this BSE. It can be supported via either a direct or tandem trunk arrangement.
3. Flexible ANI can only be assigned to the Circuit Switched Trunk type BSA that has the Calling Billing Number Delivery (ANI) BSE assigned as an option.
4. References:

- LSSGR FR-64 (formerly FR-NWT-000064), Flexible ANI Information Digit Assignment FSD 20-20-0100, Issue 1, September 1989, Module TR-TSY-000685.

This service, if offered as a BSE, is associated with the Circuit Switched Trunk type BSA.

Hot Line (1070)

This automatic dialing feature provides the customer with the ability to automatically be connected with another line on the circuit switched network. When the customer's station goes off-hook, a switched connection is set up without any further user action.

Generic Name of ONA Service	Product Name	BSE or CNS
Hot Line	BA - Hot Line	CNS
	BS - Hot Line	CNS
	NX - Hot Line	BSE or CNS
	PB - Direct Connection	CNS
	SWB - Hot Line	CNS
	USW - Hot Line	CNS

FEATURE OPERATION:

1. A subscriber to this service, upon going off-hook to initiate a call, will be automatically connected to a single predetermined number. No digits dialed by the subscriber will be accepted by the Central Office switch.
2. The service, including the predetermined number, is activated via a service order with the telephone company. Changes in the predetermined number can only be made via an additional service order.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS23

2. The predetermined number can be any valid seven to fifteen digit number.
3. Incoming calls are unaffected by this service.
4. A subscriber to Hot Line cannot have other originating features on the same line (i.e., Speed Calling, Warm Line, Call Forwarding, Three-Way Calling, Call Transfer).
5. References:

- LSSGR FR-64 (formerly FR-NWT-000064), FSD 01-02-0301, Manual Line Features, Issue 1, May 1990, Module TR-TSY-000562.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Message Waiting Indicator (MWI) - Ability To Receive Audible Message Waiting (1073)

With this capability, the ESP's client can receive the audible message waiting signal, i.e., stutter dial tone (or recall dial tone), when activated by the ESP. This capability is a client option. The line should be programmed with this feature in order for the client to receive stutter dial tone (message waiting tone).

To activate or deactivate the stutter dial tone on the client's line with the ability to receive audible message waiting, the ESP uses an SMDI data link to the central office switch.

Generic Name of ONA Service	Product Name	BSE or CNS
Message Waiting Indicator (MWI) - Ability To Receive Audible Message Waiting	AM - Message Waiting Tone	CNS
	BA - Messaging Services Interface	CNS
	BS - Message Waiting Indication - Audible	CNS
	NX - SMDI	CNS
	PB - Message Waiting Indicator	CNS
	SWB - Customer Alerting Enablement	CNS
	USW - Message Waiting Indication - Audible	CNS
	USW - Message Waiting Indication - Aud/Vis(8037)	CNS

FEATURE OPERATION:

1. Once the MWI feature is assigned to the ESP's client's line, there is no required action by the client to activate/deactivate the feature.
2. Any ESP can turn off/on a client's Message Waiting Indicator providing they reside in the same Central Office as the client.
3. With appropriate line translations in Stored Program Control switches, an ESP can turn on or off a special recall dial tone (stutter dial tone) to notify their clients of an awaiting message. Whenever the client attempts to originate a call, the client receives stutter dial tone. This indicates to the client that a message(s) has been received by the ESP for the client. The client will receive stutter dialtone each time he attempts to originate a call until the ESP sends a message to the switch to remove the stutter dialtone (MWI).
4. An ESP's client can use call forwarding busy line (CFBL), call forwarding don't answer (CFDA), or call forwarding variable (CFV) to forward their calls to the ESP.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E4.2*	BCS29**

Note: * In the 5ESS, this feature requires the non-standard pre-ISDN arrangement using the ISDN 1 Message AP/ACP or 3A translator with the 5E4.2 Generic.

Note: ** In the DMS-100, BCS29 supports this feature on Residential Enhanced Services (RES).

2. This feature can only be offered on an Intraoffice basis.

3. References:

- For MWI: TR-NWT-000283, Simplified Message Desk Interface (SMDI) Generic Requirements, Issue 2, May 1991.
- Recall dial tone (stutter dial tone) described in LSSGR FR-64 (formerly FR-NWT-000064), GR-506 Signaling For Analog Interfaces, Issue 1, June 1996, Revision 1 - November 1996 (replaces TR-TSY-000506, Issue 3).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Message Waiting Indicator (MWI) - Ability to Receive Visual Message Waiting(1074)

With this capability, the ESP's client can receive a visual alerting signal from the ESP. This capability is a subscriber option. The visual MWI is a device with an illuminating lamp that is controlled by signals received via the client's line from the appropriately equipped central office switches.

Generic Name of ONA Service	Product Name	BSE or CNS
Message Waiting Indicator (MWI) - Ability To Receive Visual Message Waiting	BA - Messaging Services Interface	CNS
	BS - Station Message Waiting Lamp Indication	CNS
	PB - Electronic Business Set Message Waiting	CNS
	USW - Message Waiting Indication - Visual	CNS
	USW - Message Waiting Indication - Aud/Vis(8037)	CNS

FEATURE OPERATION:

MWI - Ability to Receive Visual Message Waiting is a central office software and hardware capability that allows a subscriber, with special CPE, to have a lamp or LCD flash at 60 IPM when there are messages waiting at their message bureau, and be turned off to indicate that there are no messages.

This feature is activated/deactivated by the ESP who uses an SMDI-type data link to the central office switch. A customer's lamp or LCD is activated on their CPE when an ESP sends a signal to the central office to apply 130 volts to the customer's lamp. The ESP (Voice Mail provider, other message provider, etc.) would send an additional signal after the messages have been retrieved by the clients to remove the 130 volts from their client's lamp.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8	5E4.2* * ISDN	BCS29

2. The lamp is off when the subscriber is off-hook or there are no messages queued and the subscriber is on-hook.
3. This capability requires a specialized line card.
4. References:
 - U S WEST reference publication 77335 - "Message Waiting Indication - Visual," Issue A, September 1990.

Multiline Hunt Group (1077)

Multiline Hunting provides a software-defined search for an idle terminal to which a call can be completed. When calls are placed to a Multiline Hunt Group, hunting begins with a member designated by the dialed directory number and hunts sequentially through the group until an idle member is found or the end of the designated list is encountered. If no idle member is found, busy tone is returned to the calling party. Several types of hunting arrangements are available: Regular Hunting, Circular Hunting, and Preferential Hunting.

Preferential hunting provides individual terminals in a hunt group a "preferential list" that consists of any terminals in the hunt group to be hunted in any sequence. If the telephone number of the called line is found busy, the preferential list is sequentially hunted for an idle line. If all the terminals in the preferential list are found busy, the last number of the preferential list is the start hunt telephone number for the regular or circular hunt group. The effect is to make a hunt group member the "pilot" of its own hunt group.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group	AM - Circular Multiline Hunt Group	BSE
	AM - Multiline Hunt Group Overflow	BSE
	AM - Preferential Hunting	BSE
	AM - Regular Multiline Hunt Group	BSE
	BA - Hunting Service Arrangements	BSE
	BA - Hunting Service Arrangements: Circular (3023)	BSE
	BA - Hunting Service Arrangements: Preferred (3024)	BSE
	BS - Multiline Hunt Groups	BSE or CNS
	NX - Hunt Groups	BSE
	PB - Hunt Group Arrangement	BSE
	SWB - Multiline Hunt Group	BSE
	USW - Hunting	BSE

FEATURE OPERATION:

The Regular Line Hunting capability offers a hunting arrangement in which hunting begins with the terminal number associated with the called number and continues sequentially through the last terminal number in the Multiline Hunt Group where the hunting is stopped.

The Circular Line Hunting capability offers a hunting arrangement in which hunting begins with the terminal number associated with the called number and continues sequentially through the last terminal number in the Multiline Hunt Group where hunting resumes at terminal 1 and continues through the terminal preceding the start hunt terminal.

The preferential hunting arrangement allows a prehunt over a subset or preferential list of terminals before hunting through the hunt group. The hunt group can be either a circular or regular hunt group. All terminals in the group can have their own preferential list. When a call is to terminate to a group with preferential hunting, the address of the preferential list is obtained and conditional hunting is performed. The first terminal in the list is examined, and if idle, an attempt is made to terminate the call. If busy, the next terminal in the preferential list is examined and so on until an idle terminal is found. If an idle line is not found, then the last terminal in the list is used as the start hunt number into

the regular or circular hunt group. A regular or circular hunting is performed, and if no idle terminal is found via a search through the entire group, the calling party receives busy tone.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS*	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS17

Note: * Regular and Circular Hunting only are available in the 5ESS switch.

2. These Hunting features are compatible with the majority of Distinctive Ringing, and Three-Way Calling features in the 1A ESS, 5ESS and the DMS-100 switches. The Call Forwarding features are compatible with the hunting techniques in the 1A ESS and 5ESS switches.
3. The Call Waiting feature is compatible with preferential hunting in both the 1A ESS and the DMS-100.
4. In the 1A ESS, the preferential list can have a maximum of 18 terminals assigned to be hunted before returning to the hunt group. In the DMS-100, the preferential list can have a maximum of 19 terminals assigned, including the pilot number, to be hunted before returning to the hunt group.
5. In the DMS-100, preferential hunting is compatible with the Distributed Hunt Number feature.
6. References:
 - LSSGR FR-64 (formerly FR-NWT-000064), FSD 01-02-0802, Multiline Hunt Service, Issue 1, May 1990, Module TR-TSY-000569.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Multiline Hunt Group - C. O. Announcements (1078)

The delay announcement for queued calls on hunt group feature provides various options for handling incoming callers to a multiline hunt group that is subject to queuing. The basic queuing service provides only for audible ringing tone treatment for waiting callers. This feature allows timed audible ringing tone followed by a customer-selected (e.g., ESP-selected) combination of announcements separated by silence, music, or audible ringing tone. The announcements are standard call progress type announcements, not ESP-programmed announcements. Answer supervision is returned toward the calling party after timed audible tone when the first announcement begins.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group - C. O. Announcements	AM - Central Office Announcements	BSE
	BA - Delay Announcements	BSE
	BS - Multiline Hunt Queuing	BSE
	BS - Queuing (Access)	BSE
	NX - Queuing/UCD	BSE or CNS
	PB - Hunt Group - C.O. Announcements	BSE
	SWB - Recorded Announcements	BSE
	USW - Uniform Call Distribution	BSE

FEATURE OPERATION:

The delay announcement feature provides for automatic routing of incoming calls to multiline hunt groups to one or more pre-recorded announcements when the call is not serviced within a preset time interval.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS17

2. 1A ESS Switch:

The following optional capabilities are available, depending upon switch/generic type, with the delay announcement feature: Fixed Delay announcement, Flexible First Delay announcement, Variable Length Delay announcement, Service After Delay Announcement, Delay Announcement Improved Billing, and Selective Delay Announcement.

UCD customers using Delay Announcement must have queuing.

Customers can specify a length of time for incoming calls to be in queue before the Delay Announcement is activated.

Queuing can be zero seconds so that every caller receives an announcement.

Customers may have up to four different Delay Announcements.

Queuing timing begins after callers receive each announcement.

Announcement access trunks are required and must be traffic engineered for each customer.

Separate announcement access trunks are required for each Delay Announcement.

3. 5ESS Switch:

The following options are available, depending upon switch/generic type, with the delay announcement feature: Initial Tone treatment, Initial Delay Interval after Delay Announcement, Delay Interval between Delay Announcements, Delay Announcement Length, and Flexible First Delay Announcement.

There is a capability for four delay announcements in the 5ESS Switch. The 5ESS Switch has the capability to provide Inter delay (between announcements) timing, maximum of eight delays, tones and the number of cycles, up to 3, that a recording can play.

4. DMS-100 Switch:

Multiline Hunting queuing functionality is available via Uniform Call Distribution (UCD) in the Northern Telecom Inc. switching machines. Currently, a UCD is assigned to a Meridian Digital Centrex environment. Where there are more incoming calls than agents to serve them, delay will be encountered before the calls are answered. There is a maximum of three delay announcements available to the ESP. A recorded announcement advising of the delay will be provided when a delay threshold is exceeded. The delay threshold is a customer option for the NTI UCD.

5. References:

- LSSGR FR-64 (formerly FR-NWT-000064), FSD 01-02-0802, Multiline Hunt Service, Issue 1, May 1990, Module TR-TSY-000569.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Multiline Hunt Group - Individual Access To Each Port In Hunt Group (1079)

Individual access to each port in a hunt group allows each line in a multiline hunt group (including the lead line) to be assigned a separate non-hunt directory number.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group - Individual Access To Each Port In Hunt Group	AM - Non-Hunting Number For Use With Hunt Group Arrangement or UCD Arrangement	BSE
	BA - Non-Hunt Directory Numbers	BSE
	BS - Multiline Hunt Groups	BSE or CNS
	BS - Nonhunting Number for use with Hunt Group or UCD Arrangement (Access)	BSE
	NX - Hunt Groups	BSE or CNS
	PB - Nonhunting Number Arrangement	BSE
	SWB - Nonhunting Number Arrangement	BSE
	USW - Hunting	BSE

FEATURE OPERATION:

When the non-hunt directory number is dialed, a call is placed only to the designated number. If the number is busy, the call will not route to other members of the hunt group, and a busy signal is returned.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

- Individual access to each port in a hunt group is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS25

- In the 1A ESS switch this feature can be assigned with the following constraints:

Each terminal number must be assigned its own Directory Number.

Queuing of Lines will not be allowed.

Stop Hunt Keys are not permitted.

- In the DMS-100 this feature can be satisfied by using either Distributed Line Hunting or the Multiline Hunt Group Feature in conjunction with the Bridged Night Number feature. The Individual Access to Each Port in a Hunt Group feature is not compatible with the Universal Call Distribution hunting arrangement in the DMS-100.

4. Call Waiting - Terminating and Call Forwarding features should not be assigned to the non-hunt directory number.

5. References:

- LSSGR FR-64 (formerly FR-NWT-000064), FSD 01-02-0802, Multiline Hunt Service, Issue 1, May 1990, Module TR-TSY-000569.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Multiline Hunt Group - Overflow (1080)

The maximum size of hunt groups is switching system dependent. This capability permits hunt groups to be large in size, within the limitations of the switching system serving the ESP. MLHG - Overflow allows a call destined for the ESP's hunt group to be routed to another telephone number within the same switching machine, but outside the hunt group. This capability requires an extra translation in order for the multiline hunt group overflow to be enabled in the switch.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group - Overflow	AM - Multiline Hunt Group Overflow	BSE
	BA - Multi-line Hunt Group	BSE
	BS - Multiline Hunt Groups	BSE or CNS
	NX - Hunt Groups	BSE
	PB - Hunt Group Overflow	BSE
	USW - Hunting	BSE

FEATURE OPERATION:

In the 1A ESS and 5ESS machines, Call Forwarding Busy Line (CFBL) will be assigned to the MLHG to accomplish the overflow function. In the DMS 100, Line Hunt Overflow to a Route or Line Hunt Overflow to a Directory Number are utilized to provide this capability.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS17

2. 1A ESS and 5ESS Switches:

For MLHG hunt lines, CFBL call forwarding occurs only when all lines are busy. The lines hunted depend on the hunting arrangement as follows:

Regular Hunting, CFBL forwarding treatment is provided only when all lines hunted, including the last line in the hunt group, are found busy.

Circular Hunting is similar to regular hunting except hunting does not end with the last line in a prearranged hunt group. In circular hunting, all lines in the hunt group are hunted for an incoming call. CFBL call forwarding treatment is provided only when all lines in a circular hunt group are searched and found busy.

3. DMS 100 Switch:

The following overflow features can be assigned to Distributed Number Hunting, Multiline Hunting and Distributed Line Hunting:

If all lines in the above listed hunt groups are busy, the overflow to a directory number (LOD) feature can be assigned to the hunt group. The LOD feature will cause hunting to continue to a specified directory number.

If all lines in the above listed hunt groups are busy, the overflow to a route index (LOR) can be assigned to the hunt group. This will give the ESP the capability to hunt to a trunk group, announcement group, or private facilities that are accessed via a route index.

4. References:

- LSSGR FR-64 (formerly FR-NWT-000064), FSD 01-02-0802, Multiline Hunt Service, Issue 1, May 1990, Module TR-TSY-000569.

This service is associated with the Circuit Switched Line basic serving arrangement.

Multiline Hunt Group - Uniform Call Distribution Line Hunting (1081)

The Uniform Call Distribution line hunting arrangement allows for equal distribution of incoming calls to all terminal numbers within a hunt group.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group - Uniform Call Distribution Line Hunting	AM - Uniform Call Distribution	BSE
	BA - Uniform Call Distribution	BSE
	BS - Uniform Call Distribution	BSE
	NX - Queuing/UCD	BSE or CNS
	PB - Uniform Call Distribution	BSE
	SWB - Uniform Call Distribution Arrangement	BSE
	USW - Uniform Call Distribution	BSE

FEATURE OPERATION:

1. When an incoming call (to the Directory Number of the multiline hunt group) is received, hunting should begin at the start-hunt terminal and proceed as a circular hunt.
2. When an idle terminal is found, the call should be completed, and immediately (even before another call attempts to terminate) a new circular hunt should begin for an idle terminal. This hunt should begin at the terminal number after the one that the call was just completed. When an idle terminal is found, the hunt should stop and the idle terminal number should be stored as the start-hunt terminal for the next incoming call to the Directory Number (DN) of the multiline hunt group (MLHG). If no idle terminal is found after a complete circular hunt is made, the stored start-hunt DN should be the DN of the last completed call.
3. If an incoming call is not to the DN of the MLHG but to a DN associated with one of the terminals of the MLHG instead, the start-hunt terminal as defined above for Uniform Call Distribution should not be used. Instead, the incoming call should be directed to the terminal associated with the called DN directly. If the called DN terminal is busy, a circular hunt should begin at the called DN terminal and continue until an idle terminal is found. If none is found, the incoming call should be given busy treatment. In either case, the next incoming call to the MLHG DN uses a start-hunt number as determined by 2 above, which is unaffected by the call to a terminal's direct DN.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS25

2. In the 1A ESS and 5ESS switches, Call Waiting - Terminating and series completion cannot be assigned to lines with the UCD feature. In the DMS-100, the Universal Call Distribution feature is not compatible with Automatic Call Back, Automatic Recall, Automatic Call Distribution, Bridged Night Number, Calling Number Delivery, Calling Number Delivery Blocking, Distributed Line Hunting, Distributed Number Hunting, Multiline Hunting, Preferential Hunting and Stop Hunt.
3. References:
 - LSSGR FR-64 (formerly FR-NWT-000064), FSD 01-02-0802, Multiline Hunt Service, Issue 1, May 1990, Module TR-TSY-000569, see "uniform call distribution hunting."

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Multiline Hunt Group - UCD With Queuing (1082)

This feature provides the capability for a UCD multiline hunt group to be equipped with the queuing feature. The queuing feature provides a means for automatically queuing calls to a multiline hunt group when all hunting group terminations are busy.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group - UCD With Queuing	AM - Queuing	BSE
	BA - Uniform Call Distribution	BSE
	BS - Multiline Hunt Queuing	BSE
	BS - Queuing (Access)	BSE
	NX - Queuing/UCD	BSE or CNS
	PB - Uniform Call Distribution With Queuing	BSE
	SWB - Queuing	BSE
	USW - Uniform Call Distribution	BSE

FEATURE OPERATION:

1. Calls made to a UCD multiline hunt group equipped with the queuing feature will complete immediately if there is an idle terminal in the UCD hunt group. However, if all terminals in the UCD hunt group are busy, the call is placed on queue and waits its turn to be served. If the delay announcements feature is active in the serving central office the calling party may receive silence, special tone, music or announcements if the call is not serviced within a customer specified length of time. The call that has been on queue the longest will be the first call served when a line becomes available. The customer determines the maximum number of calls that can be placed on queue. If the incoming call cannot be placed on queue, the calling party receives busy tone.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS25

2. In the 1A ESS and 5ESS switches, Call Waiting - Terminating and series completion cannot be assigned to lines of multiline hunt groups. The 5ESS and DMS-100 Queuing feature should not be assigned with Call Waiting - Terminating. In the DMS-100, the Universal Call Distribution feature is not compatible with Automatic Call Back, Automatic Recall, Automatic Call Distribution, Bridged Night Number, Calling Number Delivery, Calling Number Delivery Blocking, Distributed Line Hunting, Distributed Number Hunting, Multiline Hunting, Preferential Hunting and Stop Hunt.

3. References:

- LSSGR FR-64 (formerly FR-NWT-000064), FSD 01-02-0802, Multiline Hunt Service, Issue 1, May 1990.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Name of Calling Party (1097)

Name of Calling Party is a terminating user feature that allows the subscriber to receive the name associated with the calling number prior to answering the call.

Name of Calling Party, or Calling party NAME (CNAM) is an incremental feature functionality that adds calling name information to the existing "Calling Directory Number Delivery - via ICLID" service also described in the ONA Services User Guide.

When CNAM is assigned to the subscriber's line, the name associated with the calling number, along with the directory number of the calling party, the time of the call and the date are sent to, and displayed on, the called party's customer premises equipment (CPE) during the first long silent interval of the ringing cycle (between the first and second rings). If the calling party is outside the area in which the service works, the called party's CPE will receive an "0" which in most cases is displayed as "Out of Area" (actual display is the function of the CPE used).

Generic Name of ONA Service	Product Name	BSE or CNS
Name of Calling Party	AM - Caller ID With Name	CNS
	BA - Caller-ID Deluxe	CNS
	BS - Caller ID Deluxe	CNS
	NX - Call ID Deluxe	CNS

FEATURE OPERATION:

The customer must contact the telephone company to have the CNAM service activated. Once the translation changes have been made to the customer's line and the customer has installed the appropriate CPE, the name associated with the calling number, the calling number, and the date and time of call is automatically transmitted to the customer's CPE.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10	5E8	BCS36

2. All Technological and Feature Interaction Considerations applicable to Calling Directory Number Delivery - via ICLID also apply to CNAM. Refer to those considerations in the Services Descriptions section of this User Guide.
3. A maximum of 15 characters is allowed for transmission of the calling party Directory Name.
4. If the incoming call originates from a customer provided or Telephone Company Public Telephone or a Telephone Company provided Semi-Public Telephone, the name information provided will always be "Pay Phone."

5. If the incoming call originates from a multi-line hunt group, the name and number transmitted will always be the main listed directory name and number of the hunt group, unless, facilities permitting, the lines are Telephone Number identified within the group.
6. If the incoming call originates from a caller who subscribes to "Distinctive Ringing - Terminating Screening" (described in the Services Descriptions section of this User Guide), the name and number transmitted will always be the main directory listing information rather than the "Distinctive Ringing - Terminating Screening" service listed name and number.
7. If the incoming call is from a caller served by a PBX, only the main listed name and number of the PBX will be transmitted and available for display.
8. Calling party information is not available on Operator handled calls.
9. References:
 - GR-1519 CCSNIS Supporting TR-1188 Calling Name Delivery, Issue 1, October 1994 (Component of FR-905)
 - TR-NWT-001188 CLASSSM Calling Name Delivery Generic Requirements, Issue 1, December 1991

Reverse Billing On Circuit Switched Access (1083) *

Reverse Billing provides the ESP's client with the ability to make calls to the ESP without the ESP's client being billed for charges associated with the calls (e.g., message units, measured service charges, intraLATA toll), which might otherwise apply.

Generic Name of ONA Service	Product Name	BSE or CNS
Reverse Billing On Circuit Switched Access	BS - Uniform Access Number	BSE

FEATURE OPERATION:

The reverse billing feature provides the end user the ability to access the local Enhanced Service Provider (ESP) telephone number without incurring local message units or intraLATA toll. The Reverse Billing service is applicable to all calls terminating to an ESP's service provided the NPA/NXX for the ESP exists within the dial plan area.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS17

2. For a voice grade line circuit switched application, reverse billing is a function of the billing systems. The technology to provide reverse billing is dependent on two systems - the central office where the call originates must have recording capability, and the billing systems must be able to process the billing information and reverse the billing to the terminating telephone number. In order to make the billing systems' tasks less complex, a unique NXX must be assigned for the reverse billing telephone numbers. The unique NXX indicates to the billing system that calls placed to numbers in this NXX must be treated differently than normal calls. The switching equipment in each LATA must have the capability to code convert all seven or ten digits of the unique NXX to facilitate completion of the call to the ESP.

3. References: not applicable.

This service is associated with the Circuit Switched Line basic serving arrangement.

* Note that this name has been changed slightly, and the description has been modified so that it no longer includes packet, compared to the information published in the May 24, 1989 BOC ONA Special Report #5 and December 29, 1989 BSA Matrix Supplement documents. For information on the packet version of this service, see the service called "Reverse Charge Acceptance - Packet" in the packet services section of this document.

Selective Call Forwarding (1084)

Selective Call Forwarding (CLASSSM) allows the subscriber to specify a list of telephone numbers that will be forwarded to a remote station. When a call is received from one of the numbers on the list, the call will automatically be forwarded to the designated station. When a call is received from a number that is not on the list, the call will be terminated to the called party's line.

Generic Name of ONA Service	Product Name	BSE or CNS
Selective Call Forwarding	BA - Select Forward	CNS
	BS - Preferred Call Forwarding	CNS
	PB - Select Call Forwarding	CNS or BSE
	SWB - Selective Call Forwarding	CNS
	USW - Selective Call Forwarding	CNS

FEATURE OPERATION:

The customer must contact the telephone company to initiate Selective Call Forwarding service. A service order is required. The customer initiates control of the Selective Call Forwarding screening list contents as well as activation and deactivation of the service by dialing access codes as described below. Once the appropriate translations have been made to the customer's line the customer may activate, deactivate and/or use the service as follows. (Note: Prior to the 1A ESS 1AE10.2 generic, it was necessary for the 1A ESS Selective Call Forwarding customers to also subscribe to Call Forwarding Variable in order to activate the service.)

1. 1A ESS (Generic 1AE10.02 and later): To activate the Selective Call Forwarding service, the customer must go off-hook and dial *63 (1163 for rotary dial). The customer will then receive an announcement providing the following information:

- The name of the service.
- The telephone number the calls will be forwarded to.
- The service is now active.
- The number of entries on the list.
- The instructions for creating/adding to the list; removing subscriber's entries from the list; reviewing the list.

To deactivate the service, the customer must go off-hook and dial *83 (1183 for rotary dial). The customer will then receive an announcement providing the following information:

- The name of the service.
- The service is now off.
- The number of entries on the list.

- The instructions for removing any subscriber list entry; removing all subscriber entered numbers.
2. 5ESS and DMS-100: To activate or deactivate the Selective Call Forwarding service, the customer must go off-hook and dial either *63 or *83 (1163 or 1183 for rotary dial). Once either access code has been successfully entered, the customer should receive an announcement providing the following information:
 - The name of the service.
 - The telephone number the calls will be forwarded to.
 - The status of the service (active or inactive).
 - The number of entries on the list.
 - The instructions for creating/adding to the list, removing, reviewing the list, changing of service status (active to inactive, inactive to active).

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10*	5E6	BCS31**

NOTE: * Available on an intraoffice basis with 1AE9.

** References to switching system generics that have not yet been released by the vendors are based on our current information about which features are planned for inclusion in those generic releases. If the vendors change the availability of any features for future generic releases that are referenced in this document, the availability of some services may be affected.

2. The maximum directory number list size is pre-determined by the Local Exchange Company on a Company basis and can range from 2 to 31.
3. The serving central office switch must be equipped with the appropriate CLASSSM Selective Call Forwarding software and hardware. In order for this service to work on an interoffice basis, both the originating and terminating switches must be equipped with the CLASS and Common Channel Signaling (CCS) SS7 software and hardware and the interoffice trunks must be converted to SS7. The remote directory number ("forward to" number) does not have to be in a switch in the CLASS Calling Area or in a switch equipped with CLASS or SS7.
4. This service is a "line" service and therefore cannot be assigned to subscribers with trunk terminations (i.e., PBX with DID). This service is also unavailable to customers with the following types of lines: multiparty, hotel/ motel, coin and coinless public, 1A ESS remote switching system lines (RSS), and Centrex attendant with console.
5. If the subscriber is served from a 1A ESS Generic 1AE10.02 and later switch, the subscriber no longer needs to have Call Forwarding Variable service in order for Selective Call Forwarding to work. However, even though the subscriber may have both Selective Call Forwarding (SCF) and Call Forwarding Variable (CFV) assigned to their line, they CANNOT have both services active at the same time. With the 1A ESS 1AE10.03 generic, the subscriber can have SCF and CFV services activated at the same time, if the Local Exchange Company equips their central offices accordingly.

6. References:

- LSSGR FR-64 (formerly FR-NWT-000064), TR-TSY-000217 CLASSSM Feature: Selective Call Forwarding, Issue 2, November 1988, Revision 1, May 1992.
- TR-NWT-000220, CLASSSM Feature: Screening List Editing, Issue 3, December 1993.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Selective Call Rejection (1085)

Selective Call Rejection (CLASS)SM provides the subscriber with the ability to block incoming calls from a pre-specified list of directory numbers. The subscriber to this feature builds a list of telephone numbers that they want automatically blocked. The pre-selected (blocked) directory numbers are routed to a standard central office announcement instead of the dialed number. Subscribers can also place the number of the last incoming call on their list, without having to know the telephone number, by dialing a special command code. However, this must be done PRIOR to receiving another call.

Generic Name of ONA Service	Product Name	BSE or CNS
Selective Call Rejection	AM - Call Screening	CNS
	BA - Call Block	CNS
	BS - Call Block	CNS
	PB - Call Block	CNS or BSE
	SWB - Call Blocker SM	CNS
	USW - Call Rejection	CNS

FEATURE OPERATION:

The customer must contact the local telephone company to initiate Selective Call Rejection service. A service order is required. The customer initiates control of the Selective Call Rejection screening list contents as well as activation and deactivation of the service by dialing access codes as described below. Once the appropriate translations have been made to the customer's line the customer may activate, deactivate and/or use the service as follows.

1. 1A ESS: To activate the Selective Call Rejection service, the customer must go off-hook and dial *60 (1160 for rotary dial). The customer will then receive an announcement providing the following information:

- The name of the service.
- The service is now active.
- The number of entries on the list.
- The instructions for adding the last incoming number to the list, adding known numbers to the list; removing subscriber entries from the list; reviewing the list.

To deactivate the service, the customer must go off-hook and dial *80 (1180 for rotary dial). The customer will then receive an announcement providing the following information:

- The name of the service.

SM CLASS is a service mark of Bellcore (Bell Communications Research, Inc.)

SM Call Blocker is a service mark of Southwestern Bell Telephone.

- The service is now off.
 - The number of entries on the list.
 - The instructions for removing any subscriber list entry; removing all subscriber entered numbers.
2. 5ESS and DMS-100: To activate or deactivate the Selective Call Rejection service, the customer must go off-hook and dial either *60 or *80 (1160 or 1180 for rotary dial). Once either access code has been successfully entered, the customer should receive an announcement providing the following information:
- The name of the service.
 - The status of the service (active or inactive).
 - The number of entries on the list.
 - The instructions for adding the last incoming number to the list, adding removing, reviewing the list, changing of service status (active to inactive, inactive to active).

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10*	5E6	BCS31**

NOTE: * Available on an intraoffice basis with 1AE9.

** References to switching system generics that have not yet been released by the vendors are based on our current information about which features are planned for inclusion in those generic releases. If the vendors change the availability of any features for future generic releases that are referenced in this document, the availability of some services may be affected.

2. The maximum list size is pre-determined by the telephone company on a company basis and can range from 2 to 31.
3. The serving central office switch must be equipped with the appropriate CLASSSM Selective Call Rejection software and hardware. In order for this service to work on an interoffice basis, both the originating and terminating switches must be equipped with the CLASSSM and Common Channel Signaling (CCS) SS7 software and hardware and the interoffice trunks must be converted to SS7.
4. This service is a "line" service and therefore cannot be assigned to subscribers with trunk terminations (i.e., PBX with DID). This service is also unavailable to customers with the following types of lines: multiparty, hotel/ motel, coin and coinless public, 1A ESS remote switching system lines (RSS), and Centrex attendant with console.
5. The announcement the rejected call is routed to is a telephone company recorded announcement (not customer changeable).

6. References:

- TR-TSY-000218 CLASSSM Feature: Selective Call Rejection, FSD 01-02-0760, Issue 2, November 1988, Revision 1, May 1992.
- TR-NWT-000220, CLASSSM Feature: Screening List Editing, Issue 3, December 1993.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Shared Speed Calling (1086)

Shared Speed Calling will permit an ESP's clients to access a speed calling list and to call an ESP by dialing only one (or two) digit(s) instead of seven or ten digits. The ESP controls the speed calling list and determines which telephone numbers that the clients will be able to access via shared speed calling as well as the abbreviated code assigned to each number. The ESP must order the service from the BOC before an ESP client can have access to the shared speed calling list. This is due to a technological requirement of the service design that requires that each ESP's client's line be associated in the switch software with the ESP-established list.

This service differs from Speed Calling in that it allows multiple customers (ESP clients) to easily and conveniently access their ESPs without the need for each ESP client to individually subscribe to Speed Calling on their line. Speed Calling is unique to individual customer lines and the telephone numbers associated with each abbreviated code on the list are determined by the individual subscriber to the service. As with Speed Calling, Shared Speed Calling is available using either one or two digit abbreviated codes. One digit allows one to eight abbreviated codes while two digit allows one to thirty abbreviated codes.

Generic Name of ONA Service	Product Name	BSE or CNS
Shared Speed Calling	BA - Shared Speed Calling	CNS
	PB - Network Speed Calling	CNS
	USW - Abbreviated Access/Activation (1 or 2 Digit)	CNS

FEATURE OPERATION:

1. To call any of the directory numbers assigned to a Shared Speed Call list the ESP or their clients perform the following operations:
 - a. Listen for dial tone.
 - b. Dial the one or two digit Shared Speed Call code assigned to the desired directory number or destination. After a four-second pause, the call is processed. (Callers from Touch-Tone telephones can avoid the four-second pause by dialing # after the Speed Call code.)
2. To change any numbers or to add a number to the Shared Speed Call list, the following operations are performed by the ESP from their line:
 1. Listen for dial tone.
 2. Dial the applicable Shared Speed Call change code (typically three or four digits).
 3. After receipt of second dial tone, dial the Shared Speed Call code that is changing or being added and then dial the new directory number associated with the Shared Speed Call code. (If a fast busy tone is encountered the action must be repeated because the change did not occur.)

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. Only the ESP can control (i.e., change or add to) the list. The ESP must have an access line in the Central Office switch where the Shared Speed Call list is established. All clients must be in this same Central Office switch.
2. This feature is available to POTS subscribers in the following central office switches:

Switch Type	1A ESS	5ESS
Earliest Generic Release	1AE8A	5E2(2)

3. The capability may be limited to certain POTS classes of service. It is generally available to Centrex subscribers in all types of Central office switches offering Centrex service.
4. The maximum number of digits in the telephone number assigned to the Shared Speed Call code is 15 in the 1A ESS and 32 in the 5ESS.
5. Multiline subscribers can have Shared Speed Calling on each line if desired.
6. Shared Speed Calling can be used in conjunction with Three-Way Calling or Three-Way Call Transfer if the subscriber wishes to add to an established call someone who is on their Shared Speed Call list.
7. Subscribers with Shared Speed Calling (one-digit) can also have Speed Calling (two-digit) or Speed Calling (thirty number) on the same line. Subscribers with Shared Speed Calling (two-digit) can also have Shared Speed Calling (one-digit) or Speed Calling (eight number) on the same line.
8. References:
 - LSSGR FR-64 (formerly FR-NWT-000064), FSD 01-02-1101, Speed Calling, Issue 1, July 1989, Module TR-TSY-000570, see "Shared Speed Calling."

Single Number Access For Multiple Locations (1098)

Single Number Access for Multiple Locations allows subscribers with multiple locations to advertise a single 7-digit telephone number LATAwide. Calls to the subscriber's number are routed to the most appropriate location based on subscriber selected parameters, such as originating geographic location, time-of-day, day-of-week, or percent distribution of calls.

Generic Name of ONA Service	Product Name	BSE or CNS
Single Number Access for Multiple Locations	BS - Area Number Calling	CNS

FEATURE OPERATION:

Subscribers desiring the Single Number Access for Multiple Locations service must contact the telephone company to have the service established. They are assigned a 7-digit number in an NXX code dedicated for this service. Calls originating to the dedicated NXX are recognized as requiring special handling. AIN Release 0 offices send a query to the service control point (SCP) which determines the "real" (local telephone network number) terminating number based on the number dialed and the parameters selected by the subscriber. This information is transmitted back to the querying office, which uses the "real" terminating number to route the call. If the call originates in an office that is not AIN Release 0 capable but is SS7 capable, then the call, including the calling number, is routed to an office that can perform the SCP query and route the call. If the originating office is neither AIN Release 0 or SS7 capable, it is routed to an AIN capable office without the calling number and treated as agreed upon by the telephone company and the subscriber.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	See Note	5E8	BCS35

Note: A 1AESS cannot access the SCP to translate the call, but if it is equipped with 1AE10 and SS7 capability, it can route the call to a 5ESS or DMS-100 for handling.

2. Feature operation is dependent on the type of central office switch in which the call originates, not the switch type that the subscriber is served by.
3. Calls are dialed on a 7-digit basis throughout the LATA. If toll charges are involved (if the 7-digit number is translated to a 10-digit intraLATA toll number), they are billed as agreed to by the telephone company and the subscriber.
4. Geographic routing will allow calls to be routed based on originating wire center, or on originating block group boundaries. Block groups are based on the U. S. Census Bureau-based geographical coordinates, and will allow subscribers to design their own service areas below the wire center level.
5. Time-of-Day routing is based on the time the originating call is made.
6. Day-of-Week routing is based on which day of the week the calls are made.

7. Percent distribution routing allows the subscriber to distribute the call volumes going to each location, i.e., 20% to Location A, 30% to Location B, etc.
8. Default treatment will be specified for calls not mapped to a particular location, such as out of area calls, and calls without calling line identification delivered with the call.

Speed Calling (1087)

Speed Calling (eight number) allows a subscriber to establish a connection to certain directory numbers by dialing one digit instead of seven to ten digits. The service has a limit of eight speed calling access codes (each single digit code is associated with a telephone number).

Speed Calling (thirty number) allows a subscriber to establish a connection to certain directory numbers by dialing two digits instead of seven to ten digits. The service has a limit of 30 speed calling access codes (each two digit code is associated with a telephone number).

The telephone numbers associated with access codes of a speed call list are determined by the client. The client has the ability to add or change the telephone numbers assigned to such codes through use of the client's station.

Generic Name of ONA Service	Product Name	BSE or CNS
Speed Calling	AM - Speed Calling	CNS
	BA - Speed Calling	CNS
	BS - Speed Calling	CNS
	NX - Speed Calling	CNS
	PB - Speed Calling (8 & 30 Number)	CNS
	SWB - Speed Calling	CNS
	USW - Speed Calling (8 Number)	CNS
	USW - Speed Calling (30 Number)	CNS

FEATURE OPERATION:

1. To call any of the directory numbers assigned to a Speed Call list, the subscriber performs the following operations:
 1. Listen for dial tone.
 2. Dial the one or two-digit Speed Call code assigned to the desired directory number. After a four-second pause, the call is processed. (Callers from Touch-Tone telephones can avoid the four-second pause by dialing # after the Speed Call code.)
2. To change any numbers or to add a number to the Speed Call list, the following operations are performed from the subscriber's line:
 - a. Listen for dial tone.
 - b. Dial the applicable Speed Call change code (typically three or four digits).
 - c. After receipt of second dial tone, dial the Speed Call code that is changing or being added and then dial the new directory number associated with the Speed Call code. (If a fast busy tone is encountered the action must be repeated because the change did not occur.)

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS17

2. The maximum number of digits in the telephone number assigned to the Speed Call code is 15 in the 1A ESS, 32 in the 5ESS and 15 in the DMS-100.
3. Multiline subscribers can have Speed Calling on each line if desired.
4. Speed Calling can be used in conjunction with Three-Way Calling or Three-Way Call Transfer if the subscriber wishes to add to an established call someone who is on their Speed Call list.
5. Subscribers with Speed Calling (eight-number) can also have Speed Calling (thirty-number) Shared Speed Calling (two-digit) on the same line. Subscribers with Speed Calling (thirty-number) can also have Speed Calling (eight-number) Shared Speed Calling (one-digit) on the same line.
6. References:
 - LSSGR FR-64 (formerly FR-NWT-000064), FSD 01-02-1101, Speed Calling, Issue 1, July 1989, Module TR-TSY-000570.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Tandem Routing (1088)

Tandem Routing provides for access by ESPs to the exchange network with trunk and/or line interfaces through tandem switches. This allows ESPs to interconnect with the network at a single point and be accessed by customers in a selected group of end offices, all of which subtend that tandem. In some jurisdictions, at the option of the ESP, calls from a particular end office may be blocked or forwarded to the ESP, allowing the ESP to create a custom services area from the LATA sector served by the tandem.

Generic Name of ONA Service	Product Name	BSE or CNS
Tandem Routing	AM - Tandem Routing	BSA *
	BA - Tandem Routing	BSE
	BS - Custom Service Areas	BSE
	NX - Tandem Routing	BSA *
	PB - Tandem Routing	BSA *
	USW - Tandem Routing	BSA *

FEATURE OPERATION:

Tandem translations supply data for routing calls over tandem trunks. Tandem trunks that are incoming from a tandem office or central office cannot terminate at a line or tone circuit in a local office, with the exception of a connection to reorder tone when all outgoing trunks are busy or a network blockage occurs. Instead, these trunks are switched to tandem completing trunks that are outgoing to a local office.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS19

2. All three switch types require specific generic software to configure the switch for tandem operation. An example of this is the Northern Telecom NTX386AA feature package, used in the DMS 100/200 to configure this switch for Access Tandem capabilities. This feature package enables access tandem translations and screening, trunking, treatments, and billing as well as various software support features. Because all offices do not contain the necessary feature packages for tandem trunking, the local exchange company must be contacted for specific geographic locations of the switches with this capability.

* For Ameritech, NYNEX, Pacific Bell and U S WEST, this is met by an alternative of the Circuit Switched Trunk BSA.
UPDATED 7/31/98

3. In some regional companies, this service may be limited to trunk side access services utilizing Feature Groups B and D protocol, or Feature Group D protocol only.

4. References:

- TR-TSY-000540, LSSGR: Tandem Supplement, Issue 2, July 1987, Revision 1, December 1988, Revision 2, June 1990.

This service, if offered as a BSE, is associated with the Circuit Switched Trunk basic serving arrangement.

Three Way Call Transfer (1089)

Three Way Call Transfer provides the ESP who is on an established call with the ability to add another party to perform a three way conference. After establishing the conference, the ESP may drop their connection without disconnecting the remaining two parties. This action allows the ESP to transfer specific calls and free their line to initiate or receive another call.

Generic Name of ONA Service	Product Name	BSE or CNS
Three Way Call Transfer	AM - Three Way Call Transfer	BSE
	BA - Three-Way Call Transfer	BSE
	BS - User Transfer	BSE or CNS
	NX - Call Transfer	BSE
	PB - Call Transfer	BSE
	USW - Call Transfer	BSE

FEATURE OPERATION:

1. To transfer an established call: Advise first party, then depress the receiver button (recall dial tone is heard); dial number of the third party (hear ringing); announce the call, depress the receiver button to add on the first party, then hang up.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A*	5E5*	BCS29

* Note that on the 1A ESS and 5ESS, this is made available by placing customers in a Centrex Common Block.

2. An additional option for the ESP with Centrex is to allow calls to be transferred outside of the Centrex environment. This optional feature is known as DID/DOD Transfer.
3. Call Forwarding Variable is compatible with Three Way Call Transfer service.
4. Call Hold and Three Way Call Transfer can be assigned to the same line.
5. Call Pickup and Three Way Call Transfer can be assigned to the same line.
6. Speed Calling and Three Way Call Transfer can be assigned to the same line.
7. Three Way Call Transfer may be assigned to either or both parties on a Two-Party Line.

8. Three Way Call Transfer may not be provided on the following lines:

- Coin Lines
- Denied Originating Lines
- Four and Eight Party Lines
- PBX Lines
- Hotel/Motel Calls Routed to TSPS

9. References:

- LSSGR FR-64 (formerly FR-NWT-000064), FSD 01-02-1305, Add-On Transfer and Conference Calling Features, Issue 1, September 1989, Module TR-TSY-000579.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Uniform 7 Digit Access Number - Remote Call Forwarding (1090)

This capability provides a uniform seven-digit telephone number which can be dialed without an NPA prefix and is remotely call forwarded to an ESP, thereby giving an appearance of a local presence. The subscriber (ESP) may pay all end user customer usage charges and can specify a custom routing arrangement with either a central location or multiple locations throughout a LATA.

This capability uses Remote Call Forwarding technology, simulated facility groups and a dedicated NXX code. Custom Routing is an added feature.

Generic Name of ONA Service	Product Name	BSE or CNS
Uniform 7 Digit Access Number - Remote Call Forwarding	BA - One Number Service	BSE

FEATURE OPERATION:

To reach a subscriber, a client dials the seven digit number assigned by the telephone company. The call is routed to the central office switch where the translations for the capability reside. From there the call is directed to the destination specified by the subscriber. The number of simultaneous calls that can be directed to a destination is controlled by a Simulated Facility Group. Calls are completed via the Public Switched Network.

To reach a subscriber with Custom Routing, a client dials the seven digit number assigned by the telephone company. The call is translated in the originating switch and directed to the destination specified by the subscriber. Since the translations are done in each originating switch, each switch can direct calls to a different destination. A Simulated Facilities Group is established in each end office switch with Custom Routing to limit the number of simultaneous calls that can be forwarded from that switch. Calls originating in switches without translations for this capability are routed to an announcement. Calls are completed via the Public Switched Network.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS19

2. To establish this capability and to change an established arrangement for this capability requires a service order.
3. Subscribers desiring the Custom Routing option must specify the central office switches they wish to serve. Calls originating in an area that has not been designated as part of a Custom Routing area will receive a vacant code announcement.

4. References:

- Reference for Remote Call Forwarding: LSSGR FR-64 (formerly FR-NWT-000064), FSD 01-02-1402, Remote Call Forwarding, Issue 1, October 1989, Module TR-TSY-000581.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Uniform 7 Digit Access Number via Overlay Networking (1091)

This feature provides the ESP with a uniform 7 digit directory number for use (for example) across a LATA, state or regional company. The clients will be able to dial one number from all locations within the specified area(s), and the calls will be routed to a specified ESP location within each LATA. Uniform Access Number is the ability of an ESP to use the same 7 digit telephone number in multiple service areas, possibly region-wide. All numbers used in Uniform Access Number will come from an NXX (or NXXs) especially designated for ESP use.

Generic Name of ONA Service	Product Name	BSE or CNS
Uniform 7 Digit Access Number via Overlay Networking	BS - Uniform Access Numbers for Business Lines	BSE

FEATURE OPERATION:

The feature is supported by trunking architecture that could include direct and tandem switching center routing to the called ESP. Future routing plans will include Common Channel Signaling (SS7) technology.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. No specific vendor software or features are required. Specific telephone company architecture, capabilities and operation could vary.
2. References:
 - No requirements reference available.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Warm Line (1092)

The warm line capability is a Central Office switch based automatic dialing feature.

If an ESP's client with a warm line capability goes off-hook and commences dialing within the time delay period, the call will proceed normally as dialed. If dialing has not started before the end of the time delay period, a stored number is automatically dialed.

Generic Name of ONA Service	Product Name	BSE or CNS
Warm Line	AM - Easy Call	CNS
	BA - Warm Line	CNS
	BS - Warm Line	CNS
	NX - Warm Line	BSE or CNS
	PB - Warm Line	CNS
	SWB - Warm Line	CNS
	USW - Warm Line	CNS

FEATURE OPERATION:

1. A subscriber of this service, upon going off-hook to initiate an outgoing call has the option to either:
 - a. Dial the call in the normal manner or
 - b. Wait for the prespecified time delay period and have the call automatically dialed to a single predetermined number or
 - c. If calling from a Touch-Tone phone, dial the # to immediately activate the automatic dialing.
2. The service, including the time delay interval and the predetermined number, is initially activated via a service order with the telephone company.
3. Subsequent changes to the time delay interval may only be made via a telephone company service order. Changes to the predetermined number may be made via a telephone company service order or, as an option, be made from the subscriber's line in the following manner:
 - a. Listen for dial tone.
 - b. Dial a telephone company assigned update code and receive second dial tone after a four second pause (subscribers with Touch-Tone lines can avoid this pause by dialing # after the update code).
 - c. Dial the new number. After a short time-out period, the new number will be active.

If the above described option is available, the service can be deactivated by following the same procedure but not dialing in a new number. To reactivate the service, the subscriber would again follow the above described procedure and must re-enter the predetermined number.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	DMS-100
Earliest Generic Release	BCS17

2. The predetermined telephone number can be any number normally dialable from the subscriber's line.
3. The time delay period is specified on a per line basis and can range from 0 to 20 seconds (a usual value would be 4 or 5 seconds).
4. Incoming calls are unaffected by this service.
5. A line with this service cannot have Hot Line service.
6. Warm Line can be used in conjunction with Three Way Calling or Three Way Call Transfer if the subscriber wishes to add the predetermined number to an established call.
7. No LSSGR reference available.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

2. Technical Descriptions for Packet Switched Serving Arrangements

Call Detail Recording Reports (Packet) (1003)

This service will provide the ESP with a data record of all calls made to their telephone number. The record will include called and calling NTN (Network Terminal Number), date, time of day, number of segments and the duration of the call.

The call details will not be delivered in real time, but as a paper or magnetic tape output. The technology to provide Call Detail Recording is resident in two systems: first, the packet switch where the call originates must have recording capability; and second, the BOC's data processing system must be able to sort the recording information and extract the call details on calls made to the ESP's called number.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Detail Recording Reports (Packet)	BA - Monthly Detailed Connection File	BSE
	NX - Call Detail Recording Reports-Packet	BSE or CNS
	PB - Call Detail Recording Reports	*
	SWB - Reports	BSE
	USW - Access Service Billing Information	BSE

FEATURE OPERATION:

See above description.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

- Two reports may be provided either as paper or magnetic tape output, the Summary Report or the Detailed Report. The two reports may be sorted by three key elements:
 - NUI - Network User Identification
 - Calling NTN (Network Terminal Number)
 - Called NTN (Network Terminal Number)
- The actual information and report format may vary by company.
- References:
 - GR-301 PPSNGR, Issue 2, December 1997 (replaces TR-TSY-301, Issue 2).

This service, if offered as a BSE, is associated with the Packet Switched X.25 and X.75 basic serving arrangements.

* Pacific Bell does not consider "paper or magnetic tape output" as a Basic Service Element. Pacific Bell does and will continue to provide call detail information to its customers.

Call Redirection - Packet (1004)

Call Redirection is an optional intraLATA Public Packet Switched Network (PPSN) feature that allows the network to automatically redirect calls to a predefined backup DTE (Data Terminal Equipment) under specified conditions. The primary DTE may designate a list of secondary DTEs called a back-up list. The network may be able to search the list in sequence until a connection can be established.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Redirection - Packet	AM - Call Redirection	BSE
	BA - Call Redirection	BSE
	BS - Call Redirection	BSE or CNS
	NX - Call Redirect	BSE or CNS
	PB - DTE Backup	BSE
	SWB - Packet Call Redirection	BSE
	USW - Backup/Redirection	BSE

FEATURE OPERATION:

The PPSN will provide the calling clients DTE/CPE with the address and reason for redirection of the call to a secondary DTE. The network will also provide the secondary DTE with data in the incoming call packet as to why the call was forwarded and the address of the primary DTE.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. The Packet Switch, Access Concentrator or ISDN Packet Handling Function should support X.25 direct access interface.
2. LEC ISDN interface to PPSN should support recommendation X.75' of the International Telecommunication Union-Telecommunication Standardization Sector (ITU-TS) [formerly CCITT].
3. PPSN supports both individual and hunt group DTE access. Call Redirection applies to all addresses associated with subscriber access.
4. Call Redirection is limited to interfaces within a single LATA.
5. References:
 - GR-301 PPSNGR, Issue 2, December 1997 (replaces TR-TSY-301, Issue 2).
 - TR-NWT-001249, X.25 Call Redirection and Call Deflection Generic Requirements, Issue 1, December 1992.

This service, if offered as a BSE, may be associated with the Packet Switched X.25 and X.75 basic serving arrangements.

Closed User Groups - Packet (1005)

Closed User Group (CUG) is a Public Packet Switched Network feature that controls communication between Data Terminal Equipment (DTEs) belonging to the same CUG. Various CUG feature options are designated by the user such as:

- Incoming Calls Barred With CUG, allows a member of a CUG to originate calls to other members of the CUG, but cannot receive incoming calls.
- CUG With Incoming Access, allows a member of a CUG to receive incoming calls from any DTE not in the CUG.
- Outgoing Calls Barred With CUG, allows a member of a CUG to receive calls from other members of that CUG, but cannot originate any calls.
- CUG With Outgoing Access, allows a member of a CUG to make outgoing calls to any DTE.

A DTE can be a member of more than one CUG.

Generic Name of ONA Service	Product Name	BSE or CNS
Closed User Groups - Packet	AM - Closed User Group	BSE
	AM - Closed User Group	CNS
	BA - Closed User Groups	BSE or CNS
	BS - Closed User Group	BSE or CNS
	NX - Closed User Group	BSE or CNS
	PB - Closed User Group	BSE
	SWB - Closed User Group	BSE
	USW - Closed User Group	BSE

FEATURE OPERATION:

Closed User Groups provide a mechanism for controlling communication that is defined by the client/user when the service is requested. A preferential CUG may be chosen at subscription and the preferential CUG will automatically be selected if a specific CUG is not designated in the call request packet. Screening of the CUG may be performed at the originating and terminating interfaces as well as the PPSN X.75 interface. The call request is cleared if found invalid at any screening point.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. The PPSN and ISDN Packet Handling Facility (PHF) should be capable of supporting more than 100 CUGs on an X.25 interface.
2. The PPSN Access Concentrator should be capable of supporting up to 10 CUGs on an X.25 interface.
3. The PPSN X.75 interface should support 100 CUG codes.

4. References:

- GR-301 PPSNGR, Issue 2, December 1997 (replaces TR-TSY-301, Issue 2).

This service, if offered as a BSE, is associated with the Packet Switched X.25 and X.75 basic serving arrangements.

Direct Call - Packet (1006)

Direct Call is an optional Public Packet Switched Network (PPSN) feature which enables the calling Data Terminal Equipment (DTE) to automatically initiate a call request without supplying the called destination address.

Generic Name of ONA Service	Product Name	BSE or CNS
Direct Call - Packet	AM - Packet - Direct Call	CNS
	BA - Auto Call Ports	CNS
	BS - Direct Call	CNS or BSE
	NX - Direct Call	BSE or CNS
	PB - Direct Call	CNS
	SWB - Packet Direct Call	CNS
	USW - Auto Call	CNS

FEATURE OPERATION:

The Direct Call feature allows the PPSN Access Concentrator (AC), or ISDN Packet Handling Facility (PHF) to set up calls to a presubscribed address with minimal input from the user. The presubscribed address is established by the customer at the time the service is provisioned. This address, which is assigned a logical channel number, is used in an originating call request whenever no called address is provided by the calling DTE.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. The PPSN Access Concentrator should support X.25 direct access and dial in interfaces.
2. The PPSN Access Concentrator should support asynchronous direct access and dial in interfaces.
3. The ISDN Packet Handling Facility (PHF) should support the X.25 standard interface and future protocol requirements.
4. The ISDN default throughput class value is 9600 bps for all X.25 interfaces. The range of throughput class values that should be supported on all ISDN X.25 interfaces is: 75, 150, 300, 600, 1200, 2400, 4800, and 9600 bps. For B-channel and 64 kbps D-channel interfaces, the following throughput class values should be supported in addition: 19.2, 48, 56 and 64 kbps (the last two values as soon as codepoints are assigned).
5. References:
 - GR-301 PPSNGR, Issue 2, December 1997 (replaces TR-TSY-301, Issue 2).
 - International Telecommunication Union-Telecommunication Standardization Sector (ITU-TS) [formerly CCITT] 1980, 1984 and 1988 recommendations for X.25 and asynchronous interface requirements.

This service, if offered as a BSE, is associated with the Packet Switched X.25 basic serving arrangement.

Fast Select Acceptance - Packet (1007)

Fast Select Acceptance is an optional feature which works in conjunction with the Fast Select Request facility. This capability allows the called Data Terminal Equipment (DTE) to receive user data in the call setup packet. The terminating (called) DTE must be subscribed to the Fast Select Acceptance facility to receive Fast Select call. If the terminating DTE does not subscribe to Fast Select Acceptance, the Data Circuit Terminal Equipment (DCE) would respond to the Fast Select Request call of the origination DTE with a clear indication packet, indicating that Fast Select Acceptance is not subscribed to.

Generic Name of ONA Service	Product Name	BSE or CNS
Fast Select Acceptance - Packet	AM - Fast Select Acceptance	BSE
	BA - Fast Select Acceptance	BSE
	BS - Fast Select	BSE or CNS
	NX - Fast Select Accept	BSE or CNS
	PB - Fast Select Acceptance	BSE or CNS
	SWB - Fast Select	BSE
	USW - Fast Select Acceptance	BSE

FEATURE OPERATION:

The Fast Select Acceptance feature permits the calling DTE to send up to 128 octets of user data in the call setup packet to a called DTE subscribed to the Fast Select Acceptance feature. The service is available in a restricted and unrestricted mode. In the unrestricted mode the called DTE has an option to accept the call request and exchange data packets. In the restricted mode the call request is cleared and only data associated with call setup and clearing is exchanged.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is defined in the International Telecommunication Union-Telecommunication Standardization Sector (ITU-TS) [formerly CCITT] X.25, X.75 and X.75' utilities as always required.
2. The PPSN Access Concentrator (AC) should support X.25 direct access and dial-in interfaces.
3. The ISDN Packet Handling Facility should support the X.25 direct access interface to the user and the X.75' interface to the PPSN.
4. References:
 - GR-301 PPSNGR, Issue 2, December 1997 (replaces TR-TSY-301, Issue 2).

This service, if offered as a BSE, is associated with the Packet Switched X.25 and X.75 basic serving arrangements.

Fast Select Request - Packet (1008)

Fast Select Request is a Public Packet Switched Network PPSN optional per-call feature that allows user data to be included in the originating call request packet sent from the calling Data Terminal Equipment (DTE) to the called DTE. The called or terminating DTE must be subscribed to the Fast Select Acceptance facility to receive Fast Select Request calls.

Generic Name of ONA Service	Product Name	BSE or CNS
Fast Select Request - Packet	AM - Fast Select	CNS
	BA - Fast Select Request	CNS
	BS - Fast Select	BSE or CNS
	NX - Fast Select Request	BSE or CNS
	PB - Fast Select Initiate	BSE or CNS
	SWB - Fast Select	BSE
	USW - Fast Select Acceptance	BSE

FEATURE OPERATION:

The Fast Select Request service permits the calling DTE to send up to 128 octets of user data in X.25 call setup packets. The service can be provided in a restricted and unrestricted mode. In the unrestricted mode the called DTE has an option to accept the call request and exchange data packets. In the restricted mode the call request is cleared and only data associated with call setup and clearing is exchanged.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is defined in the International Telecommunication Union-Telecommunication Standardization Sector [formerly CCITT] X.25, X.75 and X.75' utilities as always required.
2. The PPSN Access Concentrator (AC) should support X.25 direct access and dial-in interfaces.
3. The ISDN Packet Handling Facility should support the X.25 direct access interface to the user and the X.75' interface to the PPSN.
4. References:
 - GR-301 PPSNGR, Issue 2, December 1997 (replaces TR-TSY-301, Issue 2).

This service, if offered as a BSE, may be associated with the Packet Switched X.25 and X.75 basic serving arrangements.

Hunt Groups - Packet (1009)

Hunt Groups is an optional subscription Public Packet Switched Network (PPSN) feature which allows a subscriber to associate a single address with a group of asynchronous or X.25 direct interfaces. Incoming calls routed to the group address are distributed based on the type of hunting requested by the subscriber. The PPSN Hunt Group feature may vary in operation and capabilities provided by specific packet switch vendors.

Generic Name of ONA Service	Product Name	BSE or CNS
Hunt Groups - Packet	AM - Hunt Groups	BSE
	BA - Multiple Channel Hunt Groups	BSE
	BS - Hunt Group	BSE or CNS
	NX - Hunting	BSE or CNS
	PB - Hunt Group (INT/EXT)	BSE
	SWB - Packet Hunt Group	BSE
	USW - Multiple Port Hunt Group	BSE

FEATURE OPERATION:

The PPSN Access Concentrator (AC) or ISDN Packet Handling Facility (PHF) will provide as a subscription option a hunt group capability that distributes incoming calls to a single packet network address. Three hunting arrangements that may be provided by packet vendors are:

- Sequential Hunt - all calls are delivered to the first access interface. If busy, calls will be delivered to the second interface. If that interface is busy, calls will be delivered to the third, and so on until the call is completed. If all sequential access interfaces are busy, the call will be cleared.
- Uniform Hunt - hunting arrangement keeps track of the last incoming call and delivers the next call to the next interface on the hunt list. The call is cleared when all interfaces are busy.
- Load Sharing Hunt - the user specifies the number of calls per interface before moving to the next address. If the last interface is busy the process repeats from the first address on the list.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. The PPSN Access Concentrator (AC) should support asynchronous and X.25 direct access interfaces.
2. The ISDN Packet Handling Facility (PHF) should support X.25 direct access interfaces.
3. The AC should support at least ten X.25 direct access interfaces.
4. References:
 - GR-301 PPSNGR, Issue 2, December 1997 (replaces TR-TSY-301, Issue 2).

This service, if offered as a BSE, may be associated with the Packet Switched X.25 and X.75 basic serving arrangements.

Menu Access Translator - Gateway (1010)

Gateway Service is an optional Public Packet Switched Network (PPSN) service that provides a directory of information providers.

Generic Name of ONA Service	Product Name	BSE or CNS
Menu Access Translator - Gateway	USW - Community Link	BSE

FEATURE OPERATION:

The PPSN Access Concentrator (AC) or ISDN Packet Handling Facility (PHF) should provide the user with an abbreviated address for ESPs listed in the Gateway. Upon selection of the desired address, the Gateway will set up a call and route the calling DTE (Data Terminal Equipment) or dialup computer to the ESP. Service capability and details of operation will vary in each regional Bell Operating Company.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. The PPSN Access Concentrator (AC) should support X.25 and asynchronous direct and dialup interfaces.
2. The ISDN Packet Handling Facility (PHF) should support X.25 direct access interface to the user and X.75 to the PPSN.
3. The PPSN should support X.75 to the IC/ESP.
4. References:
 - GR-301 PPSNGR, Issue 2, December 1997 (replaces TR-TSY-301, Issue 2).

This service, if offered as a BSE, is associated with the Packet Switched X.25 and X.75 basic serving arrangements.